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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/720,206	05/03/2001	Philip Guy	82402-3801	9235

7590 02/14/2003
Ade & Company
1700 360 Main Street
Winnipeg Manitoba, R3C 3Z3
CANADA

EXAMINER

CHUNDURU, SURYAPRABHA

ART UNIT	PAPER NUMBER
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1637

DATE MAILED: 02/14/2003

20

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

Applicant(s)

09/720,206

GUY ET AL.

Examiner

Art Unit

Suryaprabha Chunduru

1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22, 23 and 28-38 is/are pending in the application.
- 4a) Of the above claim(s) 22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicants' response to the office action (Paper No. 18) filed on November 20, 2002 has been entered.
2. Applicant's response to the office action (Paper No.18) is fully considered and deemed persuasive in part.
3. The objection made in the previous office action to the Oath/ Declaration is withdrawn herein in view of the applicants' submission of new Oath/Declaration (Paper No.19).
4. With reference to the rejection made in the previous office action under 35 USC 103(a), applicants' arguments are fully considered and found not persuasive. Applicants argue that there is no motivation or suggestion to combine the teachings of Andersson et al. and Bailey et al. since the combination would restrict oxygen availability or would not be suitable for improving agronomic properties. This argument is fully considered but found not persuasive. In response to applicants' argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir.1992). In this case, specific motivation is provided in the combination of teachings which notes that an ordinary practitioner is motivated to develop a method to increase the intracellular levels of nonsymbiotic hemoglobins in combination with drought tolerance. Bailey et al. indicates that "the invention

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was based on the surprising discovery that transformation of plants with oxygen-binding proteins provide several advantages, and one among those was to develop plants with increased drought tolerance” (see page 9, lines 19-22). Thus, the combination of teaching would motivate one skilled in the art to develop a method as claimed in the instant invention since the broader scope of the instant claims would suggest or motivate one with ordinary skill in the art to develop a method to improve agronomic properties of a plant using nonsymbiotic hemoglobins. Further, Applicants argue that the instant invention does not involve mitochondrial oxidation nor facilitate diffusion of oxygen, rather the instant invention is drawn “to the binding of oxygen under low oxygen environments and maintaining cell energy status”. The limitation upon which the Applicants rely is *not found* in the instant claims. Applicants pointed out that the limitations are disclosed in the instant specification. However, the limitations are not found in the instant claims and the specification can not be read into the claims. Therefore, the rejection is maintained herein.

New Grounds of Rejections

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined

was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 28-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Tarczynski et al. (USPN. 5,563,324).

Tarczynski et al. teach a method for improving the agronomic properties of a plant comprising, manipulating oxygen levels (intracellular levels of nonsymbiotic plant hemoglobins) under drought conditions (stressful conditions) and allowing the plant cell and organelles to contribute to the overall growth and metabolism of the plant (plant vigour) (see column 2, lines 4-9, column 1, lines 48-62, column 3, lines 6-18). Further Tarczynski et al. teach that the method comprises (i) nonsymbiotic hemoglobin from barley (see column 12, lines 56-67, column 13, lines 1-5); (ii) improved agronomic properties include seedling vigour, and reduced fermentation products (see column 10, lines 54-58); selection of seeds and growing the seeds for two or more generations to ensure constitutive expression of the desired phenotypic characteristics (see column 15, lines 65-67, column 16, lines 1-9). Thus, the disclosure of Tarczynski et al. meets the limitations in the instant claims.

Conclusion

No claims are allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suryaprabha Chunduru whose telephone number is 703-305-1004. The examiner can normally be reached on 8.30A.M. - 4.30P.M, Mon - Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 703-308-1119. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-0294 for regular communications and - for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

^{SPC}
Suryaprabha Chunduru
February 4, 2003


JEFFREY FREDMAN
PRIMARY EXAMINER